COMMERCIAL COMPONENT USE IN MILITARY SYSTEMS

PARTS OBSOLESCENCE WORKSHOP

Impact of Commercialization on Parts Obsolescence

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Commercial Technology Insertion

Need for Commercial Microcircuits
Strategies for Part/Manufacturer Selection
Reliability Considerations

Obsolescence Management

Market Driven Environment
Risk Mitigation Strategies

Standardization

Technology Roadmaps
Parts Management for 21st Century

Need for Commercial Microcircuits

- ✓ *DRIVERS*
  - *Availability of packaging/technology to meet new program performance requirements*
  - *Affordability - FMS considerations*
- ✓ *PLAN FOR CHANGE*
  - *Supplier Management*
  - *Performance/Reliability Modelling*
  - *Open Architecture Design*
- ✓ CHALLENGES
  - *Increased Obsolescence Risk at Piece-Part Level*
  - *No Verified Models for Long Term Dormant Storage*
  - *Contractor Responsibility for Supplier Certification*

Technical Considerations

ADVANTAGES

Higher Performance Available - 70% More Functions
Higher Density Packaging
Superior Mechanical Durability
Lighter Weight
Compatible with Automated Assembly Processes

DISADVANTAGES

Higher Thermal Resistance
Reduced Temperature Range Available
Non Hermetic
Greater Risk to Obsolescence
Manufacturers Will Not Certify Performance Outside Limits

Affordability

- ✓Reduction in DoD Budgets Focus Emphasis on Unit Cost
- ✓Foreign Military Sales Increasing to Maintain Market Share
- ✓Cost Effective Alternative to Redesign/Emulation for Obsolescence

Part Type	Military Part Cost ($)	Commercial Part Cost ($)
Discrete Logic	5	1
PAL	25	8
FIFO	80	12
1M SRAM	50	20
1M Flash Memory	60	8
12 bit DAC	250	60
128 macrocell EPLD	330	90

Manufacturers Streamlining Processes to Minimize Military Part Cost Escalation - Eclipsed by Commercial Part Cost Reductions